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APPEAL BRIEF

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of: Antonius A.C.M. KALKER et al.

Atty. Docket: PHN 17,025

Serial No.: 09/348,891

Examiner: James Fletcher

Filed: July 6, 1999

Group Art Unit: 2621

Confirmation No.: 5906

For: DETECTION OF A WATERMARK IN A COMPRESSED VIDEO SIGNAL

APPELLANTS' BRIEF PURSUANT TO 37 C.F.R. § 41.37

MAIL STOP APPEAL BRIEF - PATENTS

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

Appellants submit this brief in accordance with the provisions of 37 C.F.R. § 41.37 in response to the Final Rejection dated August 8, 2007. Appellants' Notice of Appeal was filed on November 8, 2007. This Appeal Brief is therefore timely filed.

I. REAL PARTY IN INTEREST

The real party in interest in this application is KONINKLIJKE PHILIPS ELECTRONICS N.V., the assignee of the inventors' interests in this invention.

II. RELATED APPEALS AND INTERFERENCES

None.

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III. STATUS OF CLAIMS

In the application under appeal, claims 1-4, 6 and 7 are pending. Claim 5 was previously cancelled. Claims 1-4, 6 and 7 stand rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,700,989 (Itoh). The 35 U.S.C. 102(e) rejections of claims 1-4, 6 and 7 based on Itoh are appealed.

IV. STATUS OF AMENDMENTS

Appellants have submitted an amendment after the final rejection, which was not entered by the Examiner.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 1 recites a method of detecting a watermark in a compressed video signal. The video signal includes spectral coefficients obtained by transforming at least one picture of the video signal. The method includes accumulating spatially corresponding coefficients of at least one picture of one frame of the video signal. Accumulating spatially corresponding coefficients of at least one picture of one frame of the video signal is described in the specification as filed at least at figures 1 and 4, and page 4, lines 12-17. In the method, a picture is an array of pixels having the same size as the watermark. A picture being an array of pixels having the same size as the watermark is described in the specification as filed at least at page 4, lines 21-24. The method also includes transforming the accumulated coefficients into an accumulated plurality of pictures. Transforming the accumulated coefficients into an accumulated plurality of pictures is described in the specification as filed at least at page 4, lines 27-30. The method also includes detecting the watermark in the accumulated plurality of

pictures. Detecting the watermark in the accumulated plurality of pictures is described in the specification as filed at least at page 4, lines 30-31.

Independent claim 4 recites an arrangement for detecting a watermark in a compressed video signal. The video signal includes spectral coefficients obtained by transforming at least one picture of the video signal. The arrangement includes means for accumulating spatially corresponding coefficients of at least one picture of one frame of the video signal. Means for accumulating spatially corresponding coefficients of at least one picture of one frame of the video signal is described in the specification as filed at least at figures 1 and 2, and page 4, lines 12-17. In the arrangement, a picture is an array of pixels having the same size as the watermark. A picture being an array of pixels having the same size as the watermark is described in the specification as filed at least at page 4, lines 21-24. The arrangement also includes means for inverse transforming the accumulated coefficients into an accumulated plurality of pictures. Means for inverse transforming the accumulated coefficients into an accumulated plurality of pictures is described in the specification as filed at least at page 4, lines 27-30. The arrangement also includes means for detecting the watermark in the accumulated plurality of pictures. Means for detecting the watermark in the accumulated plurality of pictures is described in the specification as filed at least at page 4, lines 30-31.

Independent claim 6 recites a device for recording and/or playing back a compressed video signal. The device includes means for disabling recording and/or playback of the video signal in dependence upon the presence of a watermark in the video signal. Means for disabling recording and/or playback of the video signal in dependence upon the presence of a watermark in the video signal is described in the specification as filed at least at figure 3, and page 5, lines 1-5. The device includes an arrangement for detecting the watermark in the video

signal. An arrangement for detecting the watermark in the video signal is described in the specification as filed at least at figures 1 and 2, and page 4, lines 30-31. The arrangement includes means for accumulating spatially corresponding coefficients of at least one picture of one frame of the video signal. Means for accumulating spatially corresponding coefficients of at least one picture of one frame of the video signal is described in the specification as filed at least at page 4, lines 12-17. In the device, a picture is an array of pixels having the same size as the watermark. A picture being an array of pixels having the same size as the watermark is described in the specification as filed at least at page 4, lines 21-24. The arrangement also includes means for inverse transforming the accumulated coefficients into an accumulated plurality of pictures. Means for inverse transforming the accumulated coefficients into an accumulated plurality of pictures is described in the specification as filed at least at page 4, lines 27-30. The arrangement also includes means for detecting the watermark in said accumulated plurality of pictures. Means for detecting the watermark in said accumulated plurality of pictures is described in the specification as filed at least at page 4, lines 30-31.

Independent claim 7 recites a method of detecting a watermark in a compressed video signal. The signal includes spectral coefficients obtained by transforming at least one picture of the video signal. The method includes accumulating spatially corresponding coefficients of at least one picture. Accumulating spatially corresponding coefficients of at least one picture is described in the specification as filed at least at figures 1 and 2, and page 4, lines 12-17. The accumulated coefficients include less data than one frame of the video signal. The accumulated coefficients including less data than one frame of the video signal is described in the specification as filed at least at page 4, lines 3-6. The method also includes inverse transforming the accumulated coefficients into an accumulated plurality of pictures. Inverse

transforming the accumulated coefficients into an accumulated plurality of pictures is described in the specification as filed at least at page 4, lines 27-30. The method also includes detecting the watermark in the accumulated plurality of pictures. Detecting the watermark in the accumulated plurality of pictures is described in the specification as filed at least at page 4, lines 30-31.

References in this brief to supporting portions of the specification and drawings are given to provide exemplary embodiments, not to provide limitations to the claims.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Appellants respectfully request the Board of Patent Appeals and Interferences review the following grounds of rejection on appeal:

1. Whether claims 1-4, 6 and 7 are patentable under 35 U.S.C. § 102(e) over Itoh.

VII. ARGUMENT

Appellants respectfully submit that claims 1-4, 6 and 7 are patentable under 35 U.S.C. § 102(e) over Itoh.

Claims 1-4, 6 and 7 Are Patentable over Itoh

Independent claims 1, 4, 6 and 7 are rejected under 35 U.S.C. § 102(e) as being anticipated by Itoh. Appellants respectfully disagree.

Appellants assert that independent claims 1, 4, 6 and 7 are patentable over Itoh because Appellants contend that Itoh describes a different method and system from what is recited in claims 1, 4, 6 and 7, respectively. Itoh does not disclose, teach or suggest all the limitations of claims 1, 4, 6 and 7

As described in the Specification of the present application as filed, a "conventional MPEG decoder includes a large input buffer for converting the nearly constant

bitrate of the MPEG bitstream." Specification at page 3, lines 3-4. With the presently claimed invention, "[b]y interchanging the order of inverse transform and accumulation, the variable-length decoding can be carried out at the input bitrate [with the] variable-length decoder [being] considerably simplified and the large input buffer can be dispensed with." Specification at page 3, lines 6-9. Thus, the claimed invention beneficially reverses the typical order employed during watermark detection (transforming and then accumulating) with the claimed order of accumulating, and then transforming.

Appellants submit that claim 1 is not anticipated by Itoh at least because claim 1 recites "accumulating spatially corresponding coefficients of at least one picture of one frame of the video signal, wherein a picture is an array of pixels having the same size as the watermark," and "inverse transforming said accumulated coefficients into an accumulated plurality of pictures."

Itoh does not teach or suggest "accumulating spatially corresponding coefficients," and then "inverse transforming said accumulated coefficients." Itoh merely describes a conventional method of inverse transforming a bitstream, where, "compressed data are expanded by an MPEG decoder 56." Itoh at column 29, lines 55-56. Thus, Itoh does not teach or suggest "accumulating spatially corresponding coefficients of at least one picture of one frame of the video signal, wherein a picture is an array of pixels having the same size as the watermark," and "inverse transforming said accumulated coefficients into an accumulated plurality of pictures."

In addition, appellants submit that claim 1 is not anticipated by Itoh at least because claim 1 recites "accumulating spatially corresponding coefficients of at least one picture of one frame of the video signal, wherein a picture is an array of pixels having the same size as

the watermark.” Itoh does not teach or suggest accumulating spatially corresponding coefficients of at least one picture of one frame of the video signal, as recited in claim 1.

In the Office Action, claim 1 is rejected because Itoh teaches decoding MPEG data, which requires the accumulation of coefficients between two or more frames, i.e., rebuilding an image using I, P and B frames. In contrast to the teachings of Itoh, claim 1 recites accumulating spatially corresponding coefficients of at least one picture of one frame of the video signal. Itoh does not teach or suggest accumulating coefficients of the same frame, as recited in claim 1. Accordingly, Itoh does not teach every element of claim 1 and is therefore not anticipated by Itoh for at least this reason.

Appellants submit that claim 7 is also not anticipated by Itoh because claim 7 recites, “accumulating spatially corresponding coefficients of at least one picture, wherein the accumulated coefficients comprise less data than one frame of the video signal.” Nowhere does Itoh teach or suggest accumulating coefficients and having as a result less data than one frame of the video signal. Instead, Itoh teaches decoding P and B frames, which results in more data as a result of accumulation with an I frame. Accordingly, applicants respectfully submit that claim 7 is not anticipated by Itoh for at least this reason, and earnestly request allowance of this claim.

Independent claims 4 and 6 recite features similar to claim 1, and are therefore not anticipated by Itoh for at least the reason discussed above with respect to claim 1. Accordingly, applicants respectfully submit that claims 4 and 6 are in condition for allowance and request that those rejections be reversed.

Claims 2 and 3 depend either directly or indirectly from claim 1 and are therefore not anticipated by Itoh for at least the reason discussed above with respect to claim 1.

Accordingly, appellants respectfully submit that claims 2 and 3 are in condition for allowance and request that those rejections be reversed.

Moreover, appellants submit that claim 2 is patentable over Itoh for additional reasons. For example, claim 2 recites a method wherein "accumulating coefficients is applied to the coefficients representing said residual pictures irrespective of coefficients representing the prediction picture." Appellants submit that Itoh does not describe "accumulating coefficients is applied to the coefficients representing said residual pictures irrespective of coefficients representing the prediction picture." Indeed, the portion of Itoh cited in the Office Action as being pertinent merely describes a method wherein "compressed data are expanded by an MPEG decoder 56." Itoh at column 29, lines 55-56.

Thus, Appellants submit that claim 1, and claims 2 and 3 dependent therefrom, and claims 4, 6 and 7 are patentable over Itoh. For the reasons stated above, Appellants believe that the Examiner's rejection of claims 1-4, 6 and 7 under 35 U.S.C. § 102(e) should be reversed and such action is respectfully requested.

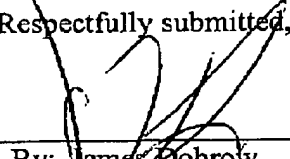
CONCLUSION

For the reasons stated above, claims 1-4, 6 and 7 are patentable over the prior art of record, and the rejections of those claims under 35 U.S.C. § 102(e) are improper and should be withdrawn. Appellants respectfully ask the Board to reverse the Examiner's rejections with instructions to allow the claims. Authorization is hereby given to charge any fees necessary for entry of this brief to deposit account no. 501358.

In view of the foregoing, the Final Rejection of the claims should be reversed.

Respectfully submitted,

Date: 8 January 2008


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VIII. CLAIMS APPENDIX

1. (previously presented) A method of detecting a watermark in a compressed video signal comprising spectral coefficients obtained by transforming at least one picture of said video signal, the method comprising:

accumulating spatially corresponding coefficients of at least one picture of one frame of the video signal, wherein a picture is an array of pixels having the same size as the watermark;

inverse transforming said accumulated coefficients into an accumulated plurality of pictures; and

detecting the watermark in said accumulated plurality of pictures.

2. (previously presented) The method as claimed in claim 1, wherein said encoded video signal includes predictively encoded pictures each comprising coefficients representing a residual picture after subtracting a prediction picture, and wherein the step of accumulating coefficients is applied to the coefficients representing said residual pictures irrespective of coefficients representing the prediction picture.

3. (previously presented) The method as claimed in claim 2, wherein said predictively encoded pictures further include motion vectors, and wherein the step of accumulating coefficients is carried out irrespective of said motion vectors.

4. (previously presented) An arrangement for detecting a watermark in a compressed video signal comprising spectral coefficients obtained by transforming at least one picture of said video signal, the arrangement comprising:

means for accumulating spatially corresponding coefficients of at least one picture of one frame of the video signal, wherein a picture is an array of pixels having the same size as the watermark;

means for inverse transforming said accumulated coefficients into an accumulated plurality of pictures; and

means for detecting the watermark in said accumulated plurality of pictures.

5. (cancelled).

6. (previously presented) A device for recording and/or playing back a compressed video signal, said device comprising means for disabling recording and/or playback of the video signal in dependence upon the presence of a watermark in said video signal, characterized in that the device comprises an arrangement for detecting said watermark in the video signal, said arrangement comprising:

means for accumulating spatially corresponding coefficients of at least one picture of one frame of the video signal, wherein a picture is an array of pixels having the same size as the watermark;

means for inverse transforming said accumulated coefficients into an accumulated plurality of pictures; and

means for detecting the watermark in said accumulated plurality of pictures.

7. (previously presented) A method of detecting a watermark in a compressed video signal comprising spectral coefficients obtained by transforming at least one picture of said video signal, the method comprising:

accumulating spatially corresponding coefficients of at least one picture, wherein the accumulated coefficients comprise less data than one frame of the video signal;

inverse transforming said accumulated coefficients into an accumulated plurality of pictures; and

detecting the watermark in said accumulated plurality of pictures.

IX. EVIDENCE APPENDIX

There is no evidence which had been submitted under 37 C.F.R. §§ 1.130, 1.131 or 1.132 or any other evidence entered by the Examiner and relied upon by Appellant in this Appeal.

X. RELATED PROCEEDINGS APPENDIX

None.